Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Hip abductor versus hip extensor muscle fatigue effects on lower extremity joint coupling in females with and without Patellofemoral pain syndrome

Protocol summary

Summary

Purpose: The effects of Hip muscle fatigue on lower extremity joint coupling in females with and without Patellofemoral pain syndrome study. Design: Not blinded, control without placebo, parallel. Inclusion criteria for experimental group: complain of 1-anterior knee pain during squatting, prolonged sitting, stair descent, running 2-pain during compression of the patella into the femoral condyles. Inclusion criteria for control group: no history of hip, knee, ankle pathology or surgery. Exclusion criteria for both groups: history of hip, knee, ankle pathology or surgery. Intervention: Fatigue of Hip abductor muscles & fatigue of hip extensor muscle. Time of intervention: Less than 15 minutes. Primary outcome measure: joint coupling angle between knee and ankle joints during walking.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201204179440N1**
Registration date: **2012-05-04, 1391/02/15**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2012-05-04, 1391/02/15

Registrant information

Name

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Vice chancellery for Research and Technology, Shiraz University of Medical Sciences

Expected recruitment start date

2012-04-21, 1391/02/02

Expected recruitment end date

2012-11-22, 1391/09/02

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Hip abductor versus hip extensor muscle fatigue effects on lower extremity joint coupling in females with and without Patellofemoral pain syndrome

Public title

The effects of Hip muscle fatigue on lower extremity joint coupling in females with and without knee pain

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria for experimental group: complain of 1-anterior knee pain during squatting, prolonged sitting, stair descent, running; 2-pain during compression of the patella into the femoral condyles. Inclusion criteria for control group: no history of hip, knee, ankle pathology or surgery. Exclusion criteria for both groups: history of hip,

knee, ankle pathology or surgery.

Age
From **18 years** old to **35 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **48**

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethic committee of Vice chancellery for research and Technology, Shiraz University of Medical Scienc

Street address
Shiraz University of Medical Sciences, Zand St.

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7194733669

Approval date
2011-02-03, 1389/11/14

Ethics committee reference number
CT- 89- 5467

Health conditions studied

1

Description of health condition studied
patellofemoral pain syndrome

ICD-10 code
M22.2

ICD-10 code description
Patellofemoral disorders

Primary outcomes

1

Description
Joint coupling angle between knee and ankle joints

Timepoint
Before fatigue protocol, immediately after fatigue protocol

Method of measurement
motion analysis system and force plate (degree)

Secondary outcomes

1

Description
Isometric strength of Tested muscle

Timepoint
Before fatigue protocol, immediately after fatigue protocol

Method of measurement
digital myometer(Nm)

Intervention groups

1

Description
The protocol of muscle fatigue is the same for both groups. Fatigue protocol for hip-abductor muscles: position of participants is supine with the knee in extension. Participants perform isometric hip abduction contraction with resistance. A digital myometer measures maximal voluntary isometric contraction (MVIC) before and after fatigue protocol. The fatigue protocol continues until participants MVIC drops below 70% of the pre-fatigue value. Fatigue protocol for hip-extensor muscles: position of participants is side lying with the knee in flexion. Participants perform isometric hip extension contraction with resistance. A digital myometer measures maximal voluntary isometric contraction (MVIC) before and after fatigue protocol. The fatigue protocol continues until participants MVIC drops below 70% of the pre-fatigue value.

Category
Diagnosis

Recruitment centers

1

Recruitment center

Name of recruitment center
Shiraz University of Medical Sciences

Full name of responsible person
Dr Soraya Pirouzi

Street address
School of health and Rehabilitation

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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice chancellery for research and technology, Shiraz University of Medical Sciences
Full name of responsible person
Dr Gholam Reza Hatam
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Chancellery of Research and Technology, Level 7, Shiraz University of Medical Sciences, Zand Ave
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Shiraz
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Vice chancellery for research and technology, Shiraz University of Medical Sciences
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

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Person responsible for updating data

Contact

Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty